REMARKS

In accordance with the foregoing, claims 1-2 and 5-6 have been amended. No new matter is presented and entry and approval are requested.

Claims 1-6 are pending and under consideration. Reconsideration is requested.

<u>Claim Objection</u>

The Examiner objects to claim 5 because of informalities and asserts that the claim should be an independent claim instead of being a dependent claim that embodies physical elements of another embodiment.

Claim 5 is amended herein as suggested by the Examiner. Thus, withdrawal of the objection is requested.

<u>Rejection under 35 U.S.C.§112</u>

The Examiner rejects claims 1, 5, and 6 under 35 U.S.C. §112, second paragraph. The Examiner asserts that the term "the subpixel" has insufficient antecedent basis

Claims 1, 5, and 6 are amended herein and to replace the term "the subpixel" with the term --one of the subpixels--.

Applicants submit that the Examiner's concerns are addressed and that claims 1, 5, and 6 comply with 35 U.S.C. §112, second paragraph. Thus, the rejection should be withdrawn.

<u>Rejection under 35 U.S.C.§103</u>

The Examiner rejects claims 1-6 under 35 U.S.C. §103(a) as being unpatentable over Kanou et la. (Hereinafter "Kanou" US 6,088,062) in view of Brown Elliott et al. (Hereinafter "Elliott" US 2003/0034992 Al).

The rejection is traversed. Independent claim 1, as amended herein recites, an image display device that includes a display screen where first, second, and third subpixels emitting colored light of three different colors are arranged cyclically so as to repeat the three different colors every predetermined display pixel pitch at least in a predetermined cyclic arrangement direction and displays images on the display screen, the device comprising: a data conversion portion for converting image data having pixel data each of which is associated with each data point when the data points are arranged at a data pixel pitch smaller than the display pixel pitch in the cyclic arrangement direction each subpixel data corresponding to each of the subpixels; and a display control portion for controlling the colored light of each of the subpixels arranged in the display screen based on each of the subpixel data that was converted by the data conversion portion, and thereby to display images on the display screen, wherein, the data conversion

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portion performs, for each of the subpixels, an operation for generating subpixel data corresponding to one of the subpixels by adding weight depending on a distance between the center of said one of the subpixels and each of the data points to plural color data corresponding to the colored light of said one of the subpixels among plural pixel data associated with the data points that are present within a predetermined area extending from the center of said one of the subpixels to both sides in the cyclic arrangement direction in a state where the data points are overlaid on the display screen in such a manner that the respective data points are off the respective centers of the subpixels in the cyclic arrangement direction." Independent claims 5 and 6 have similar recitations.

Applicants submit that all of the features recited by at least each of the independent claims are not taught by a reasonable combination of the art of record.

By contrast, Elliott merely teaches a method of converting a source pixel data of a first format for a display of a second format having a plurality of three-color pixel elements (see, for example, paragraph [0017]).

However, Elliot discloses (see, for example, Fig. 1) a plurality of subpixels constituting one pixel in the second format are disposed two-dimensionally.

That is, Elliot does not teach a display the second format where "first, second, and third subpixels emitting colored light of three different colors are arranged cyclically so as to repeat the three different colors every predetermined display pixel pitch at least in a predetermined cyclic arrangement direction," as recited by claim 1, for example. (Emphasis added).

By contrast with an exemplary embodiment of the present invention, Elliott merely teaches a converting pixel data to subpixel data for a display having first, second, and third subpixels emitting colored light of three different colors.

By contrast with an exemplary embodiment of the present invention, Kanou merely discloses resolution conversion processing for a display of an input image having a pixel pitch smaller than that of display pixels.

However, Kanou teaches a data conversion corresponding to the resolution conversion that is conversion from pixel data to pixel data, and is resolution conversion of simply changing the number of pixels without taking subpixel layout into consideration.

But, Kanou does not disclose a technique for conversion processing for each subpixel in consideration of the subpixel positions.

According to an exemplary embodiment of the present invention, an operation is performed in a state where the respective data points are off the respective centers of the subpixels in the

cyclic arrangement direction.

By contrast, Kanou merely discloses (see, for example, Figs. 1, 3, 7, and 8) that the position of at least one of input pixels (pixel data) is identical to the position of output pixels (display pixels). In terms of the relationship between pre-conversion data points and post-conversion data points, the pixel layout taught by Kanou is the same as the layout disclosed in Fig. 1 of the specification as a related art. As disclosed in the specification, (see, for example, page 2, line 10-page 3, line 16) " Fig. 1 is an explanatory diagram of a method...then to display images having a resolution higher than a resolution determined by the display pixel pitch with respect to the cyclic arrangement direction.

By contrast, claim 1, for example, recites "the respective data points are off the respective centers of the subpixels in the cyclic arrangement direction," as discussed above. Thus, an exemplary embodiment of the present invention provides an advantage of reducing a color shift (color deviation) (see, for example, Figs. 5 or 7).

Thus, Applicants submit that a finding of *prima facie* obviousness is in error, the rejection should be withdrawn and claims 1, 5, and 6 allowed.

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Dependent claims 2-4 inherit the patentable recitations of base claim 1, and therefore, patentably distinguish over the art of record for at least the reasons discussed above. In addition, the dependent claims recite additional feature not taught by the art of record.

For example, claim 4 recites an image display device according to claim 3, wherein when the number of subpixels n is three and the integer i is one, the data pixel pitch P_d is expressed as an equation:

$$P_d = (2/3) \cdot P_o$$

By contrast, Kanou merely teaches (see, for example, Fig. 1) the ratio of 1:(2/3)=3:2 is shown as an example of the ratio of an input pixel pitch to an output pixel pitch. f Kanou also teaches (see, for example, Flg. 3) the ratio of 1:(1+1/2)=2:3 is shown as an example of the ratio of an input pixel pitch to an output pixel pitch.

As discussed above, however, Kanou is silent with regard to data conversion in consideration of the subpixel positions.

In contrast, according to the structure of claim 4, a display pixel pitch P_o relating to the

equation $P_d = (2/3) \cdot P_o$ recited in claim 4 is as three times as that of the subpixel pitch. In an example of an exemplary embodiment supposing that the subpixel pitch is denoted by P_{os}, the foregoing equation is represented as follows: $P_d = (2/3) \cdot 3P_{os} = 2 P_{os}$. That is, a ratio of the data pixel pitch P_d to the subpixel pitch P_{os} is 2:1. Kanou, alone or in combiantion, does not teach the ratio.

Thus, Applicants submit that a finding of *prima facie* obviousness is in error, the rejection should be withdrawn and claims 2-4 allowed.

Conclusion

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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August 25, 2011 /Paul W. Bobowiec/

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